L 36557-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD

ACC NR: AP6015764 (A,N) SOURCE CODE: UR/0048/66/030/005/0778/0780

AUTHOR: Vertsner, V. N.; Lumonov, R. I.; Chentsov, Yu. V.

ORG: none

TITLE: The use of low velocity electrons in an electron scanning microscope /Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v. 30, no. 5, 1966, 778-780

TOPIC TAGS: electron microscope, electronic scan, electron beam, electron energy

ABSTRACT: An electron scanning microscope employing an accelerating potential of from 500 to 2000 V has been developed and a pilot model has been constructed. The use of a low accelerating potential entails some deterioration of the resolving power but provides higher sensitivity to small variations of the electric and magnetic fields at the surface of the specimen. The low penetrating power of the low energy probe beam makes it possible to detect very thin films of foreign material on the surface of the specimen. Moreover, the secondary emission coefficient of some insulating materials for low energy incident electrons is close to unity, and it is accordingly possible to study such materials without first coating them with metal. A cross section of the pilot model microscope is shown in the figure. The beam from the electron gun 1 is focused by lenses 2 and 3 onto the specimen 5. The beam is deflected by the windings 4, the currents in which are synchronized with those in the deflection coils of the

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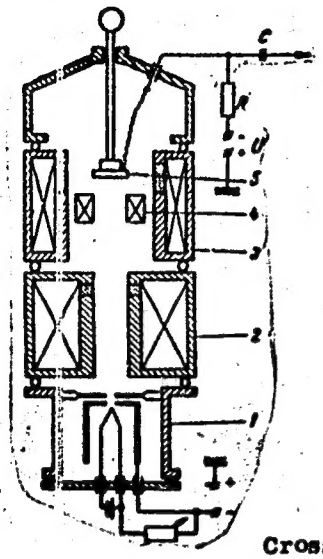
L 36557-66

ACC NR: AP6015764



kinescope on which the signal from the specimen, developed across resistor R, is displayed. A decelerating potential can be applied to the specimen holder in order further to decrease the energy of the probe electrons at the specimen. The diameter of the probe beam at the specimen was 1 micron, and the instrument was found to be sensitive to a variation of 0.2 V in the potential at the surface of the specimen. The size of the raster on the specimen could be varied from 12 x 16 mm to 0.3 x 0.4 mm, corresponding to magnifications on the kinescope screen ranging from 17 to 700. Several photographs recorded with the instrument are presented. Orig. art. has: 5 figures.

Cross section of low velocity electron scanning microscope

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 000

Card 2/2 MLP

L 36137-66 EWT(m)/EWP(e) WH
ACC NR: AP6015778 (A,N) SOURCE CODE: UR/0048/66/030/005/0835/0839

45
44
B

AUTHOR: Zhdanov, Gl. S.; Vertsner, V. N.

ORG: none

TITLE: Electron microscope observation of the formation and growth of ice crystals /Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 835-839

TOPIC TAGS: electron microscopy, crystal growth, ice, water, electric field

ABSTRACT: The growth of ice crystals on cold thin carbon and quartz films was observed with an electron microscope. The ice crystals formed by condensation of residual water vapor which was present in the microscope chamber at pressures ranging from 10^{-5} to 10^{-3} mm Hg. The accelerating potential was 80 kV, the electron beam diameter was 5-10 microns, and the current density in the beam was 0.01 A/cm^2. Under these conditions heating of the substrate by the electron beam was negligible. Hexagonal, cubic, and amorphous forms of ice were observed. The hexagonal form was stable over a wide range of temperatures; the cubic form could be obtained free from hexagonal admixture only at high vacuum and temperatures below 145° K. A sharp change in the character of the crystallization took place at 170° K; instead of the formation of large crystals, there was observed the almost simultaneous appearance of a large number of nuclei which

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L 36397-66
ACC NR: AP6015778

grew preferentially in the plane of the substrate. On the quartz substrates there were observed filamentary ice structures, which grew rapidly toward the irradiated portion of the film. These structures are ascribed to the action of electric fields due to charging of the quartz substrate by the electron beam. From a comparison of the present observations with those of J.T.Bartlett, A.P.van den Heuval, and B.J. Mason (Z. angew. Math. und Phys., 14, 599 (1963)), it is concluded that the electric field strength exceeded 500 V/cm. The polycrystalline nature of the filamentary structures was clearly evinced on the electron micrographs. The authors thank L.V. Degteva for assistance in preparing the substrates. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 002/ OTH REF: 007

Card 2/2

L 2929[illegible]-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6012456 SOURCE CODE: UR/0181/66/008/004/1021/1027

AUTHORS: Zhdanov, G. S.; Vertsner, V. N.

39
13

ORG: none

TITLE: Direct observation of condensation and crystallization of mercury

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1021-1027

TOPIC TAGS: mercury, vapor condensation, crystallization, electron microscope, metal film, particle collision/El'miskop 1 electron microscope

ABSTRACT: Inasmuch as most electron-microscope investigations of the kinetics of the growth of thin films produced during evaporation of metals in the microscope directly display only the growth of already produced particles, and not the more interesting process of their occurrence, the authors investigated in an electromicroscope the condensation of mercury on cooled carbon films. The 'El'miskop 1' electron microscope, with resolution 1 -- 1.5 nm (10 -- 15 Å) was used. The mercury vapor pressure near the object was estimated to range from 1×10^{-7} -- 2×10^{-8} mm Hg, depending on the evacuation conditions. The carbon

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L 2929[illegible]-66

ACC NR: AP6012456

films were cooled to 190 -- 125K. Because of ice formation, slow condensation could be observed only at temperatures below 135K. At all temperatures from 190 to 125K, the mercury condensed in the form of liquid drops. The liquid mercury particles were not produced simultaneously, but during the first few minutes of condensation, after which no formation of new particles was observed in practice. With increasing temperature, the rate of condensation decreased. The lifetime of the mercury atoms on the substrate at 135K and the binding energy with the substrate were calculated from the results. The values obtained were approximately 1.5 sec and were found to be 1×10^{-4} sec and 10.5 kJ/mole. The kiretics of the condensation of the mercury is described from the point of view that the condensation begins with random collisions between migrating atoms, and that the initial mercury drops grow from condensation nuclei containing only several atoms. Many of the secondary effects occurring during the crystallization are briefly described. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 29Jul65/ ORIG REF: 006/ OTH REF: 009

Card 2/2 BK

WERTSNER, V. N. (Phys)

WERTSNER, V. N. (Phys) -- "Clinical Characteristics of a Mixed Infection of Scarlet Fever and Chicken Pox." Sub 22 Sep 52, Second Moscow State Medical Inst imeni I. V. Stalin. (Dissertation for the Degree of Candidate in Medical Sciences).

SO: Vechernaya Moskva January-December 1952

VERTSNER, V.N.; IVANOVSKAYA, T.Ye.

A case of fatal chicken pox in a one-year-old child. Pediatriia no.1:78-80 Ja-F '54. (MLRA 7:3)

1. Iz detskoy gorodskoy klinicheskoy bol'nitsy No.1 (nauchnyy rukovoditel' - deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR professor M.A.Skvortsov, glavnyy vrach Ye.V.Prokhorovich). (Chicken pox)

VERTSNER, V.N.; MAZAROVA, M.M.

Clinical aspects of encephalitis in chicken pox. Pediatriia 39 no.4:44-49 Jl-Ag '56. (MLRA 9:12)

1. Iz 1-y Moskovskoy detskoy klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR Ye.V.Prokhorovich, nauchnyy rukovoditel' - prof. D.S.Futer) i Gosudarstvennogo pediatricheskogo instituta RSFSR (dir. - kandidat meditsinskikh nauk V.M.Karachevtseva)

(CHICKEN POX, compl.
encephalitis in child., clin. aspects)
(ENCEPHALITIS, etiol. and pathogen.
chickenpox in child, clin. aspects)

VERTSNER, V.N.

Clinical characteristics of mixed infections of diphtheria and chickenpox. Pediatriia 38 no.9:58-62 S '60. (MIRA 13:12)

1. Iz detskoy gorodskoy klinicheskoy bol'nitsy No.1 Moskvy (glavnyy vrach - zasluzhennyy vrach RSFSR Ye.V. Prokhorovich).
(CHICKENPOX) (DIPTHERIA)

VERTSNER, Vera Nikolayevna; FRIDMAN, R.A., red.; MATVEYEVA, M.M., tekhn. red.

[Chicken pox] Vetrianaia ospa. Moskva, Medgiz, 1963. 171 p. (MIRA 17:1)

S/048/63/027/003/021/025
B104/B186

AUTHORS: Il'in, M. M. Solov'yev, A. M., Vertsner, V. N., Dutov, G. G., Kolchev, B. S., and Toporkov, S. A.

TITLE: A commercial MAP-1 (MAR-1) instrument for X-ray microanalysis

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 3, 1963, 420-426

TEXT: This paper describes in detail a new MAP-1 (MAR-1) X-ray microanalyzer developed and tested in the Krasnogorskiy mekhanicheskiy zavod (Krasnogorsk Machine Plant). The instrument consists of the recorder and of the microanalyzer itself, comprising the electronoptical system providing the electron probe, 2 X-ray spectrometers, a specimen chamber with an optical microscope, the electrical input circuit, and the vacuum system. The electron source is a three-electrode gun with an automatic negative shift. The optical microscope makes it possible to observe the surface of the specimen at a magnification of 450 X, the resolution being $< 1\mu$. The non-vacuum spectrometer analyzes X-rays with a wave-

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A commercial ...

length of up to 1.5 Å, and the vacuum spectrometer those from 1.5 to 10 Å. The spectra are analyzed using Johann's method. The Bragg angles range from 18 to 40° . The analyzer crystals are (1340) quartz crystals with a radius of curvature of 500 mm. The diameter of the X-ray source is 1-2 μ ; this value depends on the diameter of the electron probe, which is ≤ 1μ . The amperage in the focused probe, is about 10^{-6} A and the current stability amounts to 0.5 % per hour. The instrument makes determinations on the specimen possible in the 1 - 2 μ range. When the specimen is impermeable, the change in the Bragg angle of the elements from Mg to U can be determined by using both spectrometers. The distribution of the element in the specimen to be determined in the given direction can also be determined. This is done by displacing the specimen under the electron probe with an electric motor at a fixed Bragg angle corresponding to a characteristic frequency. The dispersion and sensitivity of the instrument were studied; the sensitivity in an analysis of copper via the K_α doublet was < 0.1 %. There are 8 figures.

Card 2/2

SOLOV'YEV, A.M.; VERTSNER, V.N.

Problems arising in designing an X-ray microanalyzer. Izv.AN SSSR. Ser.fiz. 25 no.6:691-694 Je '61. (MIRA 14:6)
(X-ray microscope)

SOLOV'YEV, A.M.; VERTSNER, V.N.; IL'IN, M.M.; TOPORKOV, S.A.; KOLCHEV, B.S.; DUTOV, G.G.

Industrial X-ray spectral microanalyzer MAR-1. Izv. AN SSSR. Ser. fiz. 27 no.9:1162-1165 S '63. (MIRA 16:9)
(X-ray spectroscopy)

L 2634-66 EWT(m)/T/EWP(e) WH

ACC NR: AP6011224 SOURCE CODE: UR/0413/66/000/006/0062/0062

INVENTOR: Kutateladze, K. S.; Verulashvili, R. D.

ORG: none

TITLE: Electrical insulation glass. Class 32, No. 179884 [announced by Tbilisi State Scientific Research Institute of Construction Materials (Tbilisskiy Gosudarstvennyy nauchno-issledovatel'skiy institut stroitel'nykh materialov)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 62

TOPIC TAGS: electrical insulation glass, dielectric glass

ABSTRACT: An Author Certificate has been issued for an electrical insulation glass with good dielectric properties. The glass has the following composition: 52—58% SiO_2, 8—10% Al_2O_3, 1.5—2% Fe_2O_3, 5—7% MnO, 8—10.5% CaO, 4—6% MgO, 8—13% Na_2O, 2.5—4% K_2O. In addition to these ingredients the glass contains 0.1—0.5% TiO_2. [BO]

SUB CODE: 11/ SUBM DATE: 06Jul64/ ATD PRESS: 4225

UDC: 666.112.3
666.117.9:537.226

Card 1/1

VERULASHVILI, V.I.

Conditions for the transmission of Toxoplasma gondii from mother to fetus. Dokl. AN SSSR 149 no.4:999-1000 Ap '63. (MIRA 16:3)

1. Vtoroy Moskovskiy meditsinskiy institut im. N.I.Pirogova. Predstavleno akademikom Ye.N.Pavlovskim.
(TOXOPLASMOSIS) (FETUS--DISEASES)

L 23114-66 EWT(d)/EWT(m)/EWP(c)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(1)/EWA(h)/ETC(m)-6
ACC NR: AP6013575 IJP(c) JD SOURCE CODE: UR/0032/65/031/008/1020/1021

AUTHOR: Lomberg, B. S.; Vertman, A. A.; Yakobson, A. M.; Zheladnov, V. I.; Polyakov, A. Yu.

ORG: Institute of Metallurgy im. A. A. Baykov (Institut metallurgii)

TITLE: Unit for measuring the interphase metal-slag tension at high temperatures

SOURCE: Zavodskaya laboratoriya, v. 31, no. 8, 1965, 1020-1021

TOPIC TAGS: furnace, slag, thermocouple, vacuum seal, x ray application, molten metal, corundum, magnesite

ABSTRACT: This device is a resistance furnace with a two-filament heater. A crucible is placed in the isothermal zone of the heater on a magnesite support. The melting point is measured with a platinum-platinum-rhodium thermocouple set on the bottom of the crucible. A device mounted on the top cover permits adding of slag during the experiment. Sealing of the assembly is done with vacuum seals. Viewing windows are covered with 0.1-0.2 mm thick aluminum foil. Construction of the unit permits its operation in either a vacuum or in a neutral gas atmosphere. Experiments were conducted on corundum and magnesite crucibles, 35 mm in diameter. A substrate cut from a cylindrical crucible of smaller diameter made of the same material is placed on the bottom of the crucible. Diameter of the metal drop on this substrate is 18-20 mm. To obtain an upper edge of the

Card 1/2 UDC: 620.1.052

L 23214-66

ACC NR: AP6013575

substrate border in the form of a true sphere, it is polished with convex and concave spheres. This provided for symmetry of the liquid metal drop. X-rays were taken with an RUP-1 x-ray device.

Because of the protective shields and the intensive water cooling of the furnace housing it is possible to place the film at a minimum distance from the object. The film is placed in an aluminum cassette protected from scattering radiation by lead plates, 2 mm thick. Distance from the center of the drop to the film is 10 cm and 110 cm to the focal point of the tube. A clear image of the metal drop in the slag is obtained when the voltage on the tube is 180 kilovolts, current force-15 milliamps, and at an exposure time of 40-60 seconds. The interphase stress is calculated according to the dimensions of the drops found. The interphase tension of certain nickel-base alloys with slags was determined. The unit can be recommended for measuring the interphase tension between metals and slags of different compositions. Orig. art. has: 2 figures and 1 table. [JPRS]

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 001

Card 2/2

'ERTUN, A.

'ECHNOLOGY

'ERIODICAL: BUDOWNICTWO PRZEMYSLOWE. Vol. 7, no. 9, Sept. 1958

'ERTUN, A. Evalustion of the possibilities of realizing a project, performed with the assistance of future patrons, postulated to avoid mistakes in dwelling planning. p. 59.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 4.

April, 1959, Unclass

VERTUN, A.

The methodology of drawing up projects of organizing construction work in the light of recent decisions and instructions.

p. 32 (Budownictwo Przemyslowe) Vol. 4, no. 6, June, 1955, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

VERTUI, A.

Graphic charts for annual plans in construction.

p. 58 (Budownictwo przemyslowe) Vol. 4, No. 9, Sept. 1955, Warszawa, Poland

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7,NO. 1, JAN. 1958

VIRTUN, A.

Stages in planning the organization of construction and work.

P. 31 (BUDOWNICTWO PREMYSLOWE) Poland, Vol. 6, No. 9, Sept. 1957

SO: Monthly Index of East Equopean Accessions (AEEI) Vol. 6, No. 11, November 1957

VERIUM, A.

TECHNOLOGY

VERIUM, A. Evaluation of the possibilities of realizing a project, performed with the assistance of future patrons, postulated to avoid mistakes in dwelling planning. p. 59.

Vol. 7, no. 9, Sept. 1958.

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 12, Dec. '58.

GOROWSKI, Tadeusz; VERTUN-GOROWSKA, Barbara

Hyperfunctioning nodular goiter masked by circulatory insufficiency (masked thyro-cardiac syndrome). Pol arch. med. wewnet. 34 no.8: 1073-1079 '64.

1. Z I Katedry Chorob Wewnetrznych Studii Doksztalcania Lekarzy Akademii Medycznej w Warszawie (Kierownik: prof. dr. med. W. Hartwig) i z Oddzialu Chorob Wewnetrznych Szpitala Czerniakowskiego w Warszawie (Kierownik: prof. dr. med. M. Fejgin).

KUDRYAVTSEV, A.A., prof.; KUZ'MICHEV, A.V.; VERTUNOV, A.I.; KUZYAYEV, A.N.

Composition and properties of the blood and bone marrow in cattle. Veterinariia 42 no.10:50-52 O '65. (MIRA 18:10)

1. Vsesoyuznyy institut eksperimental'noy veterinarii.

KUDRYAVTSEV, A.A., prof.; VERTUNOV, A.I., starshiy nauchnyy sotrudnik

Application of radioactive isotopes in stockbreeding. Zhivotnovodstvo 24 no.9:71-74 S '62. (MIRA 15:12)

1. Vsesoyuznyy institut eksperimental'noy veterinarii.
(Radioactive tracers) (Vertinary physiology)

VERTUNOV, A.I.

Antomicropipet. Trudy VIEV 26:188-189 '62. (MIRA 16:2)

1. Laboratoriya fiziologii Vsesoyuznogo instituta eksperimental'noy veterinarii. (Pipettes)

KUDRYAVTSEV, A.A., prof.; VERTUNOV, A.I., nauchnyy sotrudnik

Use of radioactive tracers in stock breeding and in veterinary medicine. Veterinariia 36 no.9:11-17 S '59. (MIRA 12:12)

1.Laboratoriya fiziologii Vsesoyuznogo instituta eksperimental'noy veterinarii (VIEV).
(Radioactive tracers) (Veterinary medicine)

VERTUNOV, A.I.

KUDRYAVTSEV, A. A. and VERTUNOV, A. I.

"Applications of Radioactive Isotopes in Animal Husbandry and Veterinary Science."

paper presented at the Conference on the Use of Radioisotopes in Animal Biology and in Medical Sciences, Mexico City, 21 Nov - 1 Dec 1961.

Lab. of Normal and Pathological Physiology, All Veterinary Exptl. Inst. USSR.

VIRTUNOV, L.N.; TSEKHMEYSTRYUK, A.K.

Possibility of using clay from the Tertiary sediments of the Malyy Orgochor anticline for making clay muds. Izv. vys. ucheb. zav.; neft' i gaz 4 no.3:33-36 '61. (MIRA 16:10)

1. Frunzenskiy politekhnicheskiy institut, Issyk-kul'skaya ekspeditsiya.

VERTUNOV, L.N.

New data on the occurrence depth of Paleozoic igneous rocks in the Chu Valley. Izv.vys.ucheb.zav.; geol. i razv. 7 no.3:141-142 Mr '64. (MIRA 18:3)

1. Frunzenskiy politekhnicheskiy institut.

VERTUNOV, L.N.

Authigenous minerals and some problems of the paleogeography of Cenozoic formations in the Issykkul' basin. Nauch. trudy TashGU no.256 Geol. nauki no.22:109-112 '64 (MIRA 18:2)

VERTUNOV, L.N.

Facies analysis of neogenic Molasse deposits of the southeastern part of the Chu Depression based on the materials of deep borings. Dokl. AN SSSR 147 no.1:174-176 N '62. (MIRA 15:11)

1. Frunzenskiy politekhnicheskiy institut. Predstavleno akademikom D.V. Nalivkinym.
(Chu Valley—Geology stratigraphic)

VERTUNOV, L.N.

Problem of oil and gas potentials of Tertiary continental molasse sediments of the southwestern Issyk-Kul' Basin (northern Tien Shan). Izv.vys.ucheb.zav.; neft' i gaz 3 no.3:3-8 '60. (MIRA 14:10)

1. Frunzenskiy politekhnicheskiy institut.
(Issyk-Kul' region--Petroleum geology)
(Issyk-Kul' region--Gas, Natural--Geology)

VERTUNOV, L.N.; GRIDNEV, N.I.

Minero-petrographic characteristics of recent alluvial-colluvial deposits in the Issyk-Kul' Basin. Izv.AN Kir. SSR. Ser. est. i tekh.nauk 4 no.7:107-111 '62. (MIRA 16:3)
(Issyk-Kul' region--Petrology)

VERTUNOV, L.N.; IL'YASOVA, A.S.

Mineralogical composition of the Tertiary continental sediments in the southeastern shore of the lake Issykkul'. Zap. Kir. otd. Vses. min. ob-va no.3:81-92 '62. (MIRA 17:11)

VERTUNOV, L.N.

Authigeneous tourmaline in Cenozoic Molasse deposits in Northern Fergana. Dokl.AN Tadzh.SSR no.14:29-30 '55. (MLRA 9:9)

1.Sredneaziatskiy gosudarstvennyy universitet imeni V.I.Lenina. Predstavlen chlenem-korrespondentem AN Tadzhikskoy SSR R.B.Baratovym.
(Fergana--Geology, Stratigraphic) (Tourmaline)

VERTUNOV, L.N.

Facies of Cenozoic molasse of northern Fergana. Trudy Inst.geol. AN Kir.SSR no.8:57-77 '56. (MLRA 10:2)
(Fergana--Geology, Stratigraphic)

VERTUNOV, L.N.

Lithology of Cenozoic molasses in the Mayli-Say anticline (northern Fergana). Izv.AN Kir. SSR. Ser. est. i tekh.nauk 4 no.7:19-38 '62. (MIRA 16:3)

(Fergana--Rocks, Sedimentary)

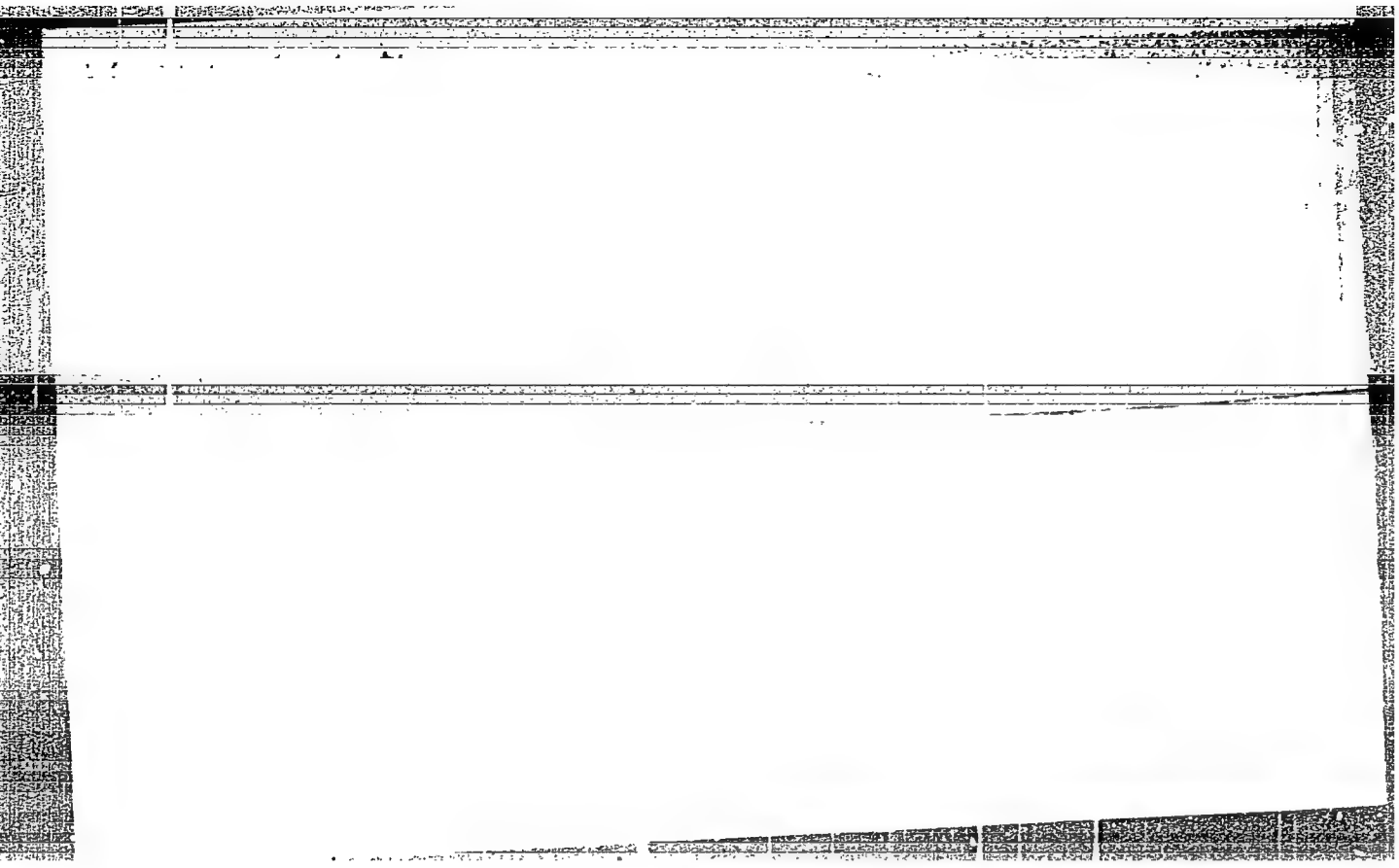
VERTUNOV, L.N.; TSEKHMEYSTRYUK, A.K.

Gas showings in the Neogene sediments of the Issyk-Kul' Basin. Gaz. prom. 9 no.6:3-5 '64. (MIRA 17:8)

VERTUNOV, L.N.

Cover thickness of Paleozoic igneous rocks in the Chu Depression (Kirghiz S.S.R.). Izv.AN Kir. SSR. Ser. est. i tekh.nauk 4 no.7:103-105 '62. (MIRA 16:3)

(Chu Depression—Rocks, Igneous)



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001859610003-8"

VERTUNOV, L.N.

Facies characteristics of the Tertiary continental molasse sediments in the southeastern part of the Issyk-Kul' trough (Northern Tien Shan). Izv. AN Kir. SSR. Ser. est. i tekh. nauk 2 no.9:121-130 '60. (MIRA 14:7)
(Issyk-Kul (Tien Shan)—Geology stratigraphic)
(Rocks, Sedimentary)

VERTUNOV, L.N., aspirant kafedry petrografii i litologii.

Petrology of soils in the Tashkent depression. Sbor.nauch.trud. asp.SAGU no.1:75-79 '52. (MLRA 9:5)
(Tashkent Province--Petrology) (Tashkent Province--Soils)

15-1957-10-13963

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, pp 88-89 (USSR)

AUTHOR: Vertunov, L. N.

TITLE: The Cenozoic Molasse Facies of Northern Fergana (Fatsii kaynozoyskikh molass Severnoy Fergany)

PERIODICAL: Tr. In-ta geol. AN KirgSSR, 1956, Nr 8, pp 57-77

ABSTRACT: The outline of the subdivisions of the molasse in Fergana is based on periodic alternating phases of sedimentary integration and differentiation, changing from one to the other in definite sequences. The Cenozoic molasse of northern Fergana belongs to the genetic facies type of the piedmont-fan zone and is subdivided by the author into a number of smaller facies which are combined into zones. 1) The fan-clastic (fanglomerate) zone is characterized by various conflomeratic facies; pebble-cobble breccia is most abundant, followed by sandy granule conglomerate and by boulder conglomerate. The facies of this zone are divided into 1) the torren-

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The Cenozoic Molasse Facies of Northern Fergana

tial boulder facies, consisting of irregularly and poorly rounded boulders 25 to 85 cm across; 2) the torrential pebble-cobble facies, occurring in thick layers or lenses (from several meters to several tens of meters), consisting of pebbles 3 to 4 cm across or, less commonly, of cobbles 8 to 9 cm across, and genetically subdivided into dry-valley, stream, carbonatized, residual, and mud-ball varieties; and 3) the torrential granule facies (similar to that described above), occurring in thin lenses and distinguished by smaller fragments, and containing dry-valley-carbonatized, dry-valley-manganiferous, and stream-carbonatized varieties. 2) The fan-loess (fan-siltstone) zone is very extensive in northern Fergana and consists of fine-clastic, varigrained sand-silt rocks. They are subdivided into a) the channel facies, characterized by coarse, irregularly sorted deposits; b) the flood-plain facies, distinguished from the channel facies by better sorting and finer grain size; c) the loess facies, very abundant among the molasse sediments, which forms thick beds (several tens of meters) and is very persistent along the strike; and d) the shoe-string facies, represented by mixed

The Cenozoic Molasse Facies of Northern Fergana

rocks and by masses of fine-grained material with individual grains of sand (or even granules). 3) The fan--stagnant-water (playa) zone occurs in the peripheral parts of the piedmont plains, in dammed-up and swampy lowlands; it consists of silty muds and exhibits well-defined and thin horizontal bedding. Genetically and lithically it may be subdivided into a) the ornamented facies, formed of buried soils with fine networks of plant root impressions, carbonate "cocoons," and similar features; b) the meadow facies, distinguished by spotted, ethereal, reddish-ochre colors and bluish-gray, irregularly scattered spots, and by great variety in clastic content in different regions; c) the playa (periodic stagnant-water) facies, characterized by very thin and distinct horizontal bedding and by fine-grained components; d) the lacustrine-paludal facies, formed in the lowland parts of the piedmont plain in water-filled basins containing plants, and consisting of silty carbonate lutites with abundant plant remains; e) the epigenetic carbonatized zone--very dense marls of cryptocrystalline calcilutites; and the fan-eolian facies, characterized by very

15-1957-10-13963

The Cenozoic Molasse Facies of Northern Fergana

uniform, predominantly sandy composition and by cross-bedding. Data are cited on the mechanical composition and the mineralogy of all the facies enumerated above, and the conditions under which the rocks were deposited are discussed.

V. G. Rikhter

Card 4/4

VERTUNOV, L.N.; KARACHKOVSKAYA, A.N.

Barite and celestine from the continental sediments of the Chu Depression (Kirghizistan). Zap. Kir. otd. Vses. min. ob-va no.3:105-107 '62. (MIRA 17:11)

15-1957-3-3081

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 93 (USSR)

AUTHOR: Vertunov, L. N.

TITLE: Analcime in the Cenozoic Molasse of Northern Fergana (Anal'tsim v kaynozoyskikh molassakh Severnoy Fergany)

PERIODICAL: Zap. Uzbekist. otd. Vses. mineralog. o-va, 1956, Nr 9, pp 61-62

ABSTRACT: Authigenic analcime has been identified in the cement of dark bluish-gray varigrained channel sandstones which occur in the upper parts of the Sumsar and Marguzar sections. It forms colorless, tabular, pseudocubical grains, ranging from 0.04 to 0.2 mm on the longest edge; it is isotropic and water clear. The mineral is associated with carbonates.

Card 1/2

15-1957-3-3081

Analcime in the Cenozoic Molasse of Northern Fergana

The author suggests that the analcime may have formed by chemical decomposition of volcanic rocks in an alkaline environment and a warm climate.

Ye.S.K.

Card 2/2

VERTUNOV, L.N.; SOTIRIADI, K.A.

Brief description of mineralogical and petrological characteristics of upper Cretaceous and Paleogene deposits in Kassan-Tau. Trudy SAGU no.63:31-38 '55. (MLRA 9:5)
(Kassan-Tau--Geology, Stratigraphic) (Kassan-Tau--Mineralogy)

TSEKHMEYSTRYUK, A.K.; KOLESNIKOV, Ya.I.; VERTUNOV, L.N.

Thermal waters in the Issyk-Kul' basin. Priroda 52 no.6:115 '63. (MIRA 16:6)

1. Frunzenskiy politekhnicheskiy institut.
(No subject headings)

ACC NR: AP6021477 SOURCE CODE: UR/0413/66/000/011/0103/0104

INVENTOR: Autsgraf, F. Zh.; Vertushkin, B. A.; Golovin, V. V.; Kon'kov, Yu. A.; Fedoseyev, R. Yu.

ORG: None

TITLE: A pneumatic relay. Class 42, No. 182416

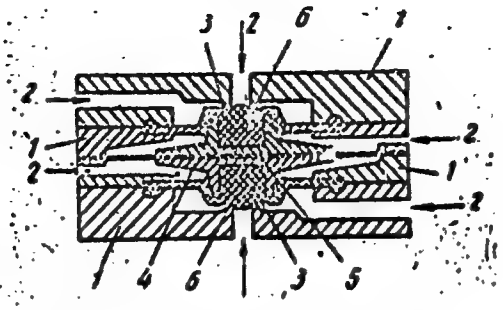
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 103-104

TOPIC TAGS: pneumatic device, nonelectric signal equipment

ABSTRACT: This Author's Certificate introduces a pneumatic relay which contains a housing made in the form of disc plates with channels, a diaphragm unit which forms a number of chambers, and nozzles mounted in the flow chambers. Short circuiting conditions are prevented by making the face plates on the rigid center of the diaphragm unit from an elastic material, e. g. rubber, and putting a greater distance between the planes of these face plates than between the edges of the nozzles.

Card 1/2 UDC: 681.142-525

ACC NR AP6021477



1--disc plates; 2--channels; 3--face plates; 4--rigid center; 5--diaphragm unit; 6--nozzles

SUB CODE: 13/ SUBM DATE: 01Mar65

Card 2/2

VERTUSHKIN, V. K. (Moskva)

Approximation of thermodynamic functions of air. Inzh. zhur. 2 no.4:343-344 '62. (MIRA 16:1)

(Air—Thermal properties)

44677
S/258/62/002/004/016/019
E032/E314

11.5100

AUTHOR: Vertushkin, V.K. (Moscow)

TITLE: Approximate thermodynamic functions for air

PERIODICAL: Inzhenernyy zhurnal, v. 2, no. 4, 1962, 343 - 344

TEXT: Existing approximate expressions for enthalpy as a function of pressure and temperature cover the temperature range 500 - 16 000 °K. It is now reported that in the temperature range 15 000 - 20 000 °K and pressure range 0.04 - 10 atm., the enthalpy is approximately given by

$$h(\rho, P) = - a \ln \rho - bP^{-c}(1 - d \ln^2 P) \qquad (2)$$

where $a = 2.84 \times 10^4$, $b = 3.065 \times 10^5$, $c = 0.09$ and $d = 0.004$ (P is in atm., ρ is in g/cm^3 and h is in kcal/g). The relative error is in most cases less than ± 3%, as compared with tabulated values. The above expression for the enthalpy may be used to integrate the equations for the steady-state flow of a real non-viscous gas without bringing in the equations of state. There is 1 table.

SUBMITTED: May 7, 1962

Card 1/1

L 1709-66 EWP(m)/EWT(1)/EWA(d)/EWA(1) GW

ACC NR: AP6007748 SOURCE CODE: UR/0293/66/004/001/0162/0164

AUTHOR: Vertushkin, V. K.

ORG: none

TITLE: Supersonic air flow past a sphere with equilibrium radiation taken into account

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 1, 1966, 162-164

TOPIC TAGS: aerodynamics, hypersonic flow, radiative heat transfer, thermal radiation, shock wave, entropy layer, enthalpy, thermodynamic equilibrium, boundary layer

ABSTRACT: Radiation effect on distribution of gas dynamic parameters behind a shock wave in an equilibrium air flow at escape velocity is investigated. The radiation absorption is neglected. A system of equations is derived describing the flow of a perfect radiating gas past a sphere in a spatial coordinate system, with the energy equation containing an additional term expressing radiation. An effective factor x which is the ratio between the real gas enthalpy and internal energy is introduced to account for the real gas effect, while the equation of state is of the form

$$i=\frac{\varkappa P}{\varkappa-1\ \rho},$$

where P is the pressure. The system was solved by a previously developed method (Izvestiya AN SSSR, Mekhanika i Mashinostroyeniye, no. 4, 1964, 60) which consists in

Card 1/2 UDC: 533.601.155

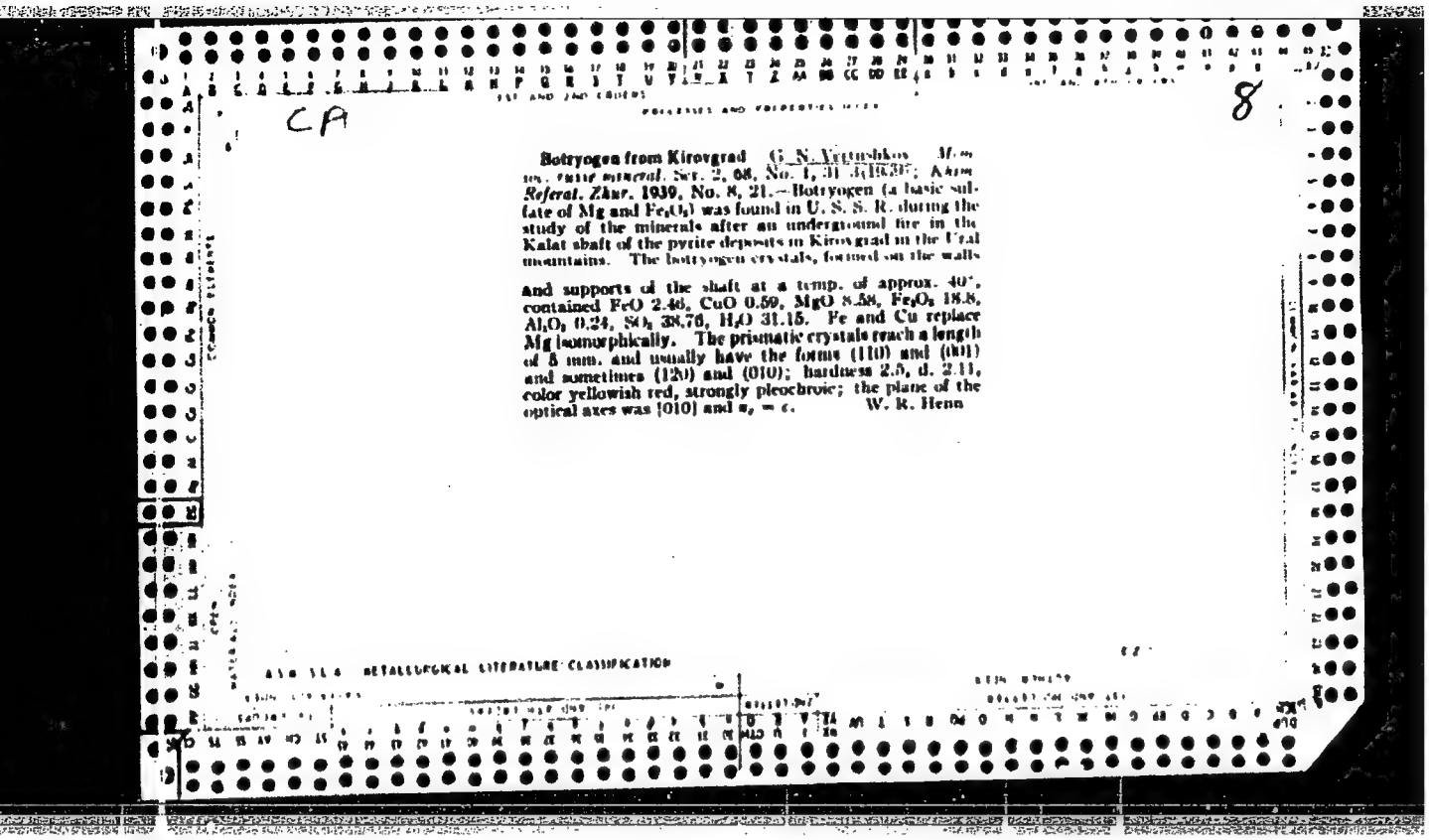
L 17709-66

ACC NR: AP6007748

tracing n rays in the region considered and approximating the intermediate values of the unknown functions with respect to the values of functions on rays. This makes it possible to express the variable with respect to θ (angle between a ray and axis of symmetry) through the values of functions on rays, thus reducing the initial system to a system of ordinary differential equations which may be integrated along the rays. The solution consists in selecting such stand-off distances on the rays at which the boundary condition u = 0 is satisfied on the body surface. The results from computations of the flow past a sphere of 100-cm radius at a speed of 11.4 km/sec and at an altitude of 60 km are presented in graphs. They show that the effective value of $\varkappa = 1.13$ accounts well for real equilibrium properties of air, and that the boundary condition u = 0 is satisfied with accuracy of not less than 0.1%. The effects of radiation show up most strongly upon the distribution of density and enthalpy and substantially less on the velocity distribution and flow pattern. The additional cooling of air due to radiation leads to an abrupt reduction of enthalpy and to an increase of density near the body surface, which is evidence of the presence of a radiation entropy layer having a substantial effect on the boundary layer and heat transfer processes. The author thanks Academician G. I. Petrov for remarks which were taken into account by the author in revising the article. Orig. art. has: 5 figures and 1 formula. [AB]

SUB CODE: 20/ SUBM DATE: 15Jan65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS: 4210

Card 2/2 nst

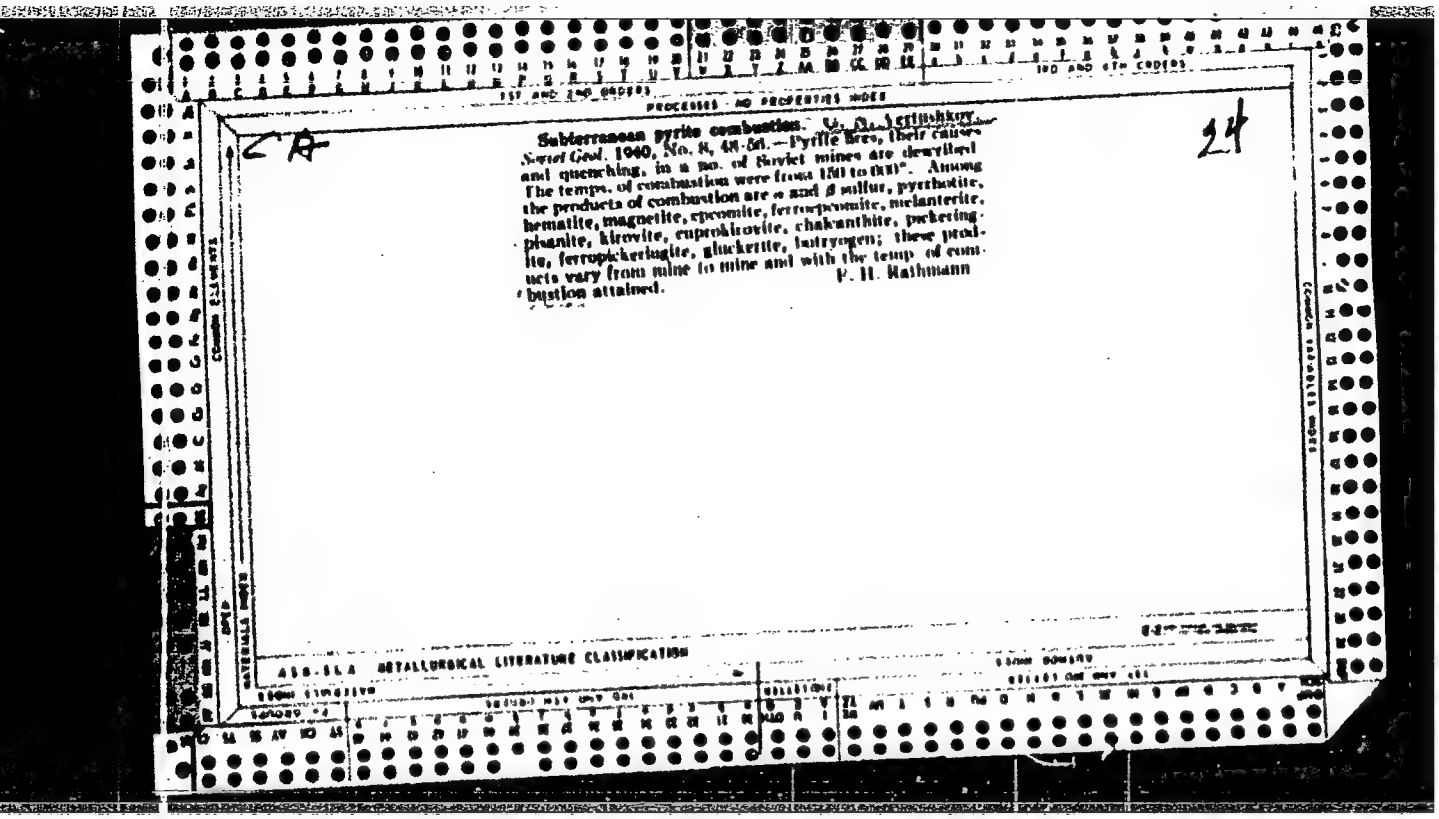


CA

8

Botryogen from Kirovgrad G. N. Yeremeikin. *Mem. soc. russe mineral.* Ser. 2, 68, No. 1, 31–34(1939); *Abstr. Referat. Zhur.* 1939, No. 8, 21.—Botryogen (a basic sulfate of Mg and $Fe_2(O_3)$ was found in U. S. S. R. during the study of the minerals after an underground fire in the Kalat shaft of the pyrite deposits in Kirovgrad in the Ural mountains. The botryogen crystals, formed on the walls and supports of the shaft at a temp. of approx. 40°, contained FeO 2.46, CuO 0.59, MgO 8.58, Fe_2O_3 18.8, Al_2O_3 0.24, SO_3 38.76, H_2O 31.15. Fe and Cu replace Mg isomorphically. The prismatic crystals reach a length of 5 mm. and usually have the forms (110) and (001) and sometimes (120) and (010); hardness 2.5, d. 2.11, color yellowish red, strongly pleochroic; the plane of the optical axes was [010] and $n_g = c$. W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION



CA

24

Subterranean pyrite combustion. U. G. Cristishkov. *Soviet Geol.* 1940, No. 8, 48-56.—Pyritic fires, their causes and quenching, in a no. of Soviet mines are described. The temps. of combustion were from 150 to 600°. Among the products of combustion are α and β sulfur, pyrrhotite, hematite, magnetite, epsomite, ferroepsomite, melanterite, pisanite, kirovite, cupreskirovite, chalcanthite, pickeringite, ferropickeringite, gluckerite, butyrogen; these products vary from mine to mine and with the temp of combustion attained.

P. H. Rathmann

Ca

8

Pickeringite and ferropickeringite—minerals of pyrites area of the Urals. O. N. Vertushkov. *Doklady Akad. Nauk S. S. S. R.* 30, 333-4(1941).—Pickeringite occurs in dense fibrous aggregates; it has low birefringence, with angular extinction of 20 to 26°, and n = 1.479. The mineral heated over an open flame evolves its water of crystn. and dissolves in it, finally forming a hard, brittle weakly magnetic nodule. It dissolves in H_2O, showing acid reaction. Partial analysis shows RO to consist of: MgO 5.48%, FeO 1.61% and CuO 0.01%. Ferropickeringite, a mineral with phys. properties similar to the above, was analyzed. It is an intermediate member of the pickeringite family. Its composition was detd. as: FeO 1.65%, CuO 0.12%, MgO 3.96%, Fe_2O_3 0.23%, Al_2O_3 11.07%, SO_3 35.38%, H_2O 47.00%, yielding the formula (Mg,Fe)·$Al_2(SO_4)_4$·$22H_2O$. O. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Raw materials

E. C. S.

897. VEIN QUARTZ FROM VEINS OF THE EASTERN SLOPE OF THE URALS.—G. N. Vertushkov (Comptes Rendus (Doklady) Acad. Sci. U.R.S.S., 51, 55, 1946). Quartz in ore veins is usually the principal constituent in terms of volume, playing the part of the ore-enclosing rock. Such veins fill fissures in rocks, and so show the microtectonic directions along which the stress of compression and expansion of the earth's crust are resolved during mountain formation. Veins are encountered near Sverdlovsk which have not been subjected to mechanical disturbances, and are distinguished by the presence of transparent patches of quartz of irregular shape, and a large-grained structure of the primary quartz, separate entities measuring as much as 1 m. across. A gradual transition can be traced from transparent to milk-white quartz, the turbidity being caused by secondary inclusions occurring in micro-fractures, and partly by the granulation of the primary quartz. In the sulphide ore veins, quartz is usually represented as a secondary microcrystalline aggregate of grains with complicated interrelations; the sulphides are of later generation than the quartz. Well preserved crystals found in veins which have undergone little metamorphosis can be used as technical raw material

PA 15T94

VERTUSHKOV, G. N.

Apr 1947

USSR/Quartz
Mineral deposits

"Foliated Quartz from the Khrustalnaya Gora in the Urals," G. N. Vertushkov, 8 pp

"Zap Vse Min Ob" Vol LXXV, No 4

Deposit of quartz near Sverdlovsk in the Ural Mountains. Study of the vitreous, transparent quartz from this region.

15T94

[illegible]OMKOV, G. N.

35870 Pirofillit s pripolyarnogo urala.—V ogl: M. A. Vertuskjov. Zapiski ural'skogo geol. o-va vyp. 2, 1948, c. 31-32

SO: Letopis' Zhurnal'nykh Statey, No. 49, 1949

VERTUSHKOV, G. N.

Vertushkov, G. N. "Deposits of the alpine type in the Central Urals," Trudy Gorno-geol. in-ta (Akad. nauk SSSR, Ural'skiy filial), Issue 14, 1948, p. 33-48 - Biblio: 20 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

VERTUSHKOV, G. N.

Vertushkov, G. N. "Brookite from Neyvo-Rudyank," Trudy Gorno-geol. in-ta (Akad. nauk SSR, Ural'skiy filial), Issue 14, 1948, p. 58-60 - Bibliog: 5 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

VERTUSHKOV, G. N.

Vertushkov, G. N. "Sheelite crystals from the Kedrovskiy deposit," Trudy Gorno-geol. in-ta (Akad. nauk SSSR, Ural'skiy filial), Issue 14, 1948, p. 64-68 - Bibliog: 6 items

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949)

VERTUSHKOV, G. N.

PA 1/49T78

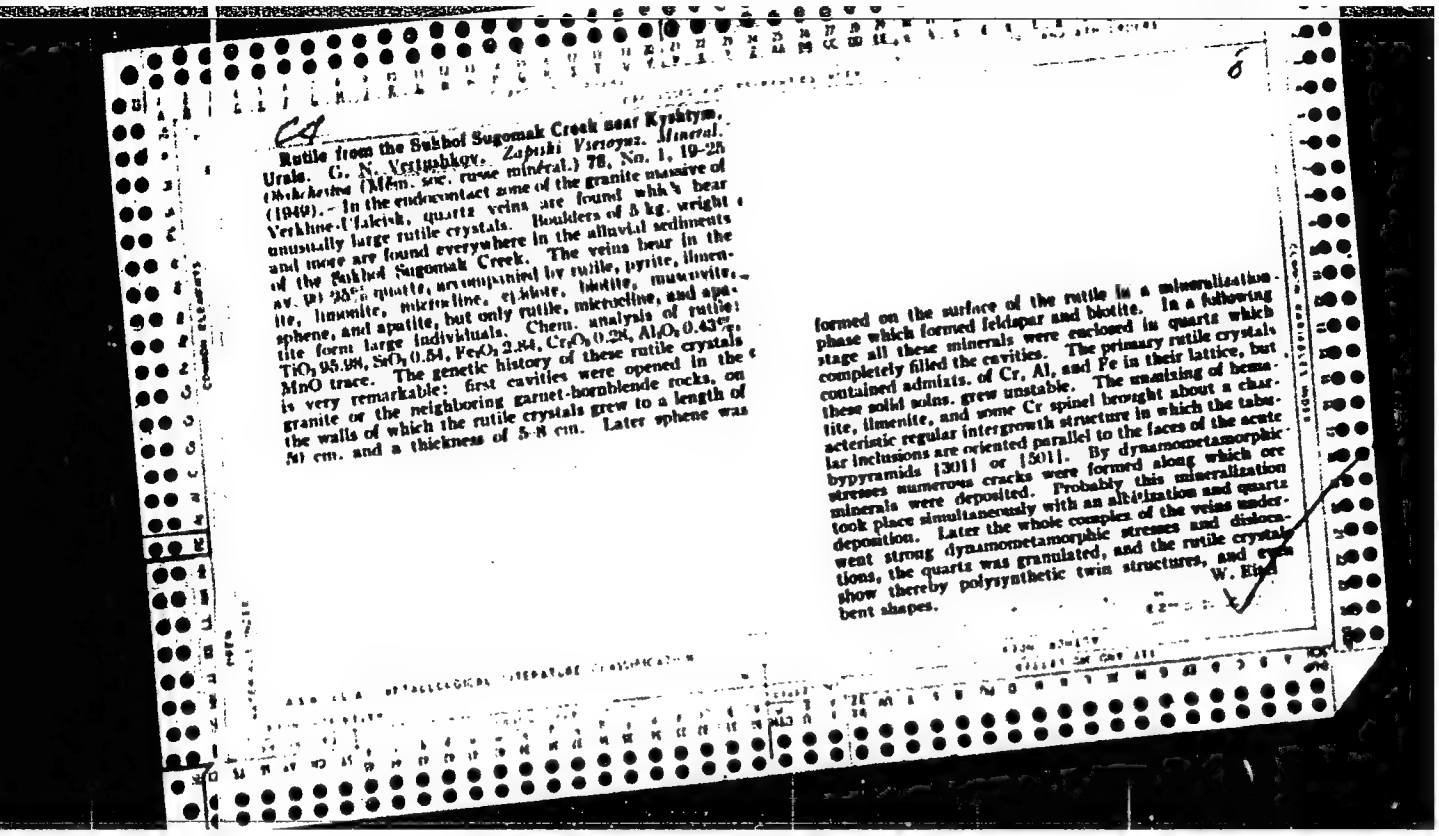
USSR/Minerals Apr/May/Jun 48
Quartz
Mineral Deposits

"Andalusite, Sillimanite, Kyanite and Corundum From the Quartz Veins of the Southern Urals," G. N. Vertushkov, Acting Mem, 4½ pp

"Zapiski V-S Mineral Obshch" Vol LXXVII, No 2

Describes various forms in which subject minerals are found in southern Ural quartz veins.

1/49T78



Rutile from the Sukhoi Sugomak Creek near Kyshtym, Urals. G. N. Vertushkov. *Zapiski Vsesoyuz. Mineral. Obshchestva* (Mem. soc. russe minéral.) 78, No. 1, 19-25 (1949).—In the endocontact zone of the granite massive of Verkhne-Ufaleisk, quartz veins are found which bear unusually large rutile crystals. Boulders of 5 kg. weight and more are found everywhere in the alluvial sediments of the Sukhoi Sugomak Creek. The veins bear in the av. pt. 25% quartz, accompanied by rutile, pyrite, ilmenite, limonite, microcline, cleavelite, biotite, muscovite, sphene, and apatite, but only rutile, microcline, and apatite form large individuals. Chem. analysis of rutile: TiO_2 95.98, SnO_2 0.84, Fe_2O_3 2.84, Cr_2O_3 0.28, Al_2O_3 0.43%; MnO trace. The genetic history of these rutile crystals is very remarkable: first cavities were opened in the granite or the neighboring garnet-hornblende rocks, on the walls of which the rutile crystals grew to a length of 50 cm. and a thickness of 5-8 cm. Later sphene was formed on the surface of the rutile in a mineralization phase which formed feldspar and biotite. In a following stage all these minerals were enclosed in quartz which completely filled the cavities. The primary rutile crystals contained admixts. of Cr, Al, and Fe in their lattice, but these solid solns. grew unstable. The unmixing of hematite, ilmenite, and some Cr spinel brought about a characteristic regular intergrowth structure in which the tabular inclusions are oriented parallel to the faces of the acute bypyramids [301] or [501]. By dynamometamorphic stresses numerous cracks were formed along which ore minerals were deposited. Probably this mineralization took place simultaneously with an albitization and quartz deposition. Later the whole complex of the veins underwent strong dynamometamorphic stresses and dislocations, the quartz was granulated, and the rutile crystals show thereby polysynthetic twin structures, and even bent shapes.

W. Eitel

VERTUSHKOV, G. N.

USSR (600)

Sverdlovsk

Academy of Sciences - Geologists Sep 50

"New problems of Genetic Mineralogy," Prof D,P. Grigor'yev, Priroda No 9 pp 22-30

Mentions the following persons as contributing greatly to the development of the science on the USSR: G. G. Lemmleyn, Leningrad, Moscow; I. I. Shafranovskiy, Leningrad; G. N. Vertushkov,

VERTUSHKOV, G. N.

Kustanay Province - Anapaite

Messelite from the Kustanay Province. Zap. Vses. min. ob. 81, No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified

VERTUSHKOV, G. N.

Anapaite-Kustanay Province

Messelite from the Kustanay Province. Zap. Vses. min. ob. 81 no. 4, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified

VERTUSHKOV, G.N.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
Mineralogical and Geological Chemistry

Quartz crystals from the Kochkara region, Urals. G. N. Vertushkov (V. V. Vakhrushev Mining Inst., Sverdlovsk). *Zapiski Vsesoyuz. Mineralog. Obshchestva* (Mém. soc. russe minéral.) 82, 217–19(1953).—Quartz crystals, locally named "vesumets-chisels," of peculiar characteristics, occur in Alpine-type Au-quartz veins. Owing to pressure effects, the crystals are cracked in regular orientation parallel to the *c*-axis, with systems of pseudocleavages crossing under angles of 60° and 120°. The crystals therefore often appear to be subdivided to trigonal-prismatic forms of columnar type. "Chisel" quartz crystals are always water-clear, while the normal Alpine-type quartz crystals are abundantly intergrown with andalusite, sillimanite, rutile, and chlorite. On the cracks, usually fine films of Fe_2O_3 hydrates, or a clay material are deposited. Pseudocleavages of quartz parallel to (10$\bar{1}$0) were described in 1897 by Vernadskiĭ; further, but less distinct pseudocleavage has been observed with sepn. faces vertical to [0001], and a third pseudocleavage is oriented under an angle of about 40° to the *c*-axis, with a sepn. face in the zone (0001)/(10$\bar{1}$0), presumably in (10$\bar{1}$1). This face is abundantly covered by inclusions. The same cracks have been observed in chilled quartz crystals after heating; the cracks in (0001) and (10$\bar{1}$0) are known only under exceptional conditions of one-sided pressure, at temps. < 200°.

W. Eitel

EH 6-11-54

VIRTUSHKOV, G.N.

Stalactites of quartz in a limonite geode from the central Urals.
Zap.Vses.min.ob-va 83 no.3:249-251 '54. (MLRA 7:11)

1. Sverdlovskiy gornyy institut im. V.V.Vkhrusheva, Kafedra mineralogii i kristallografii.
(Ural Mountains--Limonite) (Geodes)

VERTUSHKOV, G.N.; SVYAZHIN, N.V.

Reply to I.F.Lobanov's book "Identification of minerals by their solubility in water and acids." Zap.Vses.min.ob-va 83 no.3:287-289 '54. (MLRA 7:11)
(Mineralogy, Determinative) (Lobanov, I.F.)

VERTUSHKOV, G.N.

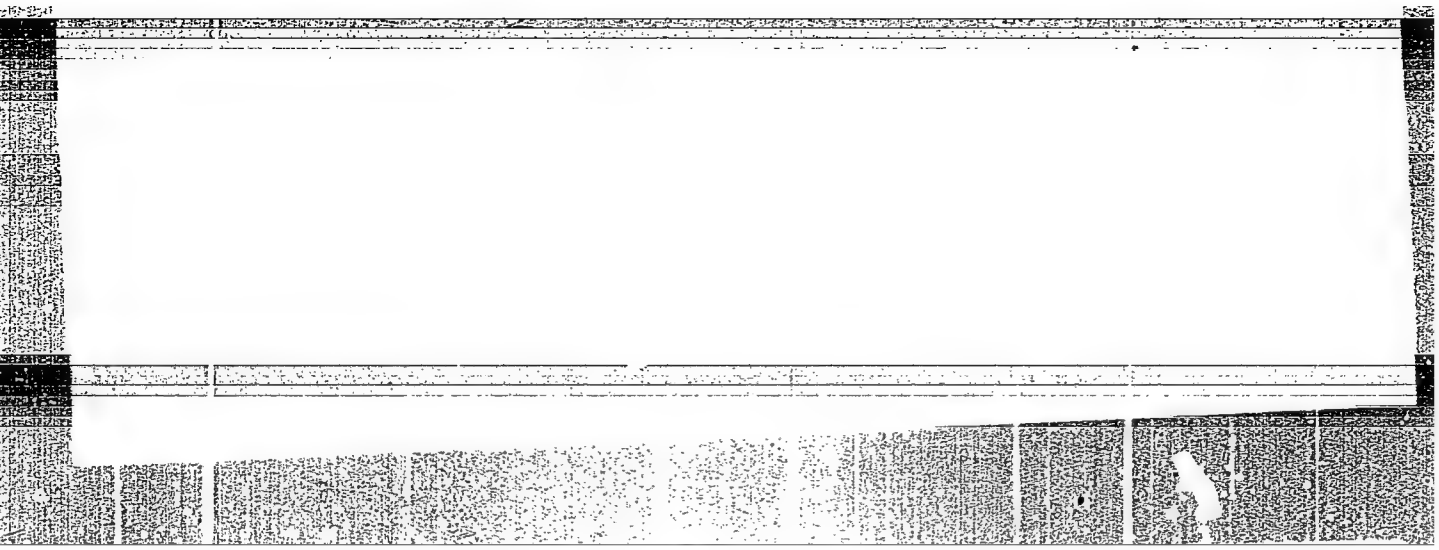
Morphology of drusy cristals of quartz and feldspar from a pegmatite vein of the Adui deposits in the Urals. Zap.Vses. min.ob-va 83 no.4:319-327 '54. (MLRA 8:2)

1. Kafedra mineralogii Sverdlovskogo gornogo instituta im.V.V. Vakhrusheva.
(Adui region--Feldspar) (Adui region--Quartz)

VIKTUSHKOV, G.N.

Minerals from mammoth tusks. Min.sbor.no.9:309-312 '55.(MLRA 9:9)

1.Sverdlovsk. Gornyy institut imeni V.V.Vakhrusheva.
(Tusks, Fossil) (Mineralogy)



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VERTUSHKOV, G.N.

VERTUSHKOV, G.N.; GRIGOR'YEV, D.P.

Konstantin Konstantinovich Matveev; 1875-1954. Zap.Vses.min.ob-va 84 no.2:251-252 '55. (MLRA 8:10)
(Matveev, Konstantin Konstantinovich, 1875-1954)

VERTUSHKOV, G.N.

AVDONIN, V.N.; VERTUSHKOV, G.N.

Amethysts from the Berezovsk gold ore deposit in the Urals. (MIRA 10:3)
Trudy Sver.gor.inst. no.26:93-94 '56.
(Berezovsk region--Amethysts)

VERTUSHKOV, G.N.

Limonite geode from the Bakal iron ore deposits. Trudy Sver.gor. inst. no.26:94-98 '56. (MIRA 10:3)
(Bakal--Limonites) (Geodes)

VERTUSHKOV, G.N.

Ilmenite-magnetite ores form dolomite veins in the Urals. Trudy Sver.gor.inst. no.26:98-104 '56. (MLRA 10:3)
(Ural Mountains--Magnetite) (Ural Mountains--Ilmenite)

VERTUSHKOV, G.N.

Aleksandr Vasil'evich Kalugin, one of the first collectors of minerals in the Urals. Zap.Vses.min.ob-va 85 no.1:95-99 '56. (MLRA 9:7)

1.Kafedra mineralogii Sverdlovskogo gornogo instituta imeni V.V.Vakhrusheva.
(Kalugin, Aleksandr Vasil'evich, 1857-1909)

VERTUSHKOV, G.N.

USSR/Cosmochemistry - Geochemistry. Hydrochemistry, D

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61300

Author: Vertushkov, G. N., Yarosh, P. Ya.

Institution: None

Title: Black Chrysotile-Asbestos from the Bazhenovsk Deposit in the Urals

Original Periodical: Dokl. AN [redacted], 1956, 106, No 5, 907-910

Abstract: Chemical composition of black asbestos (in %): MgO 41.98, CaO [redacted].12, MnO 0.08, FeO 0.39, Fe_2O_3 1.07, Al_2O_3 0.28, SiO_2 41.22. On treatment of this asbestos with various oxidizing agents (H_2O_2, HNO_3, etc) changes in the black coloration occurred with different transitions from black to white. Black color of the described asbestos can be attributed to Fe(2+).

Card 1/1

VERTUSHKOV, G.N.; AVDONIN, V.N.

Metasomatic change of serpentinites into "mica-ites" (sliudity) surrounding a quartz vein in Mount Khrustal'naya in the Urals. Zap. Vses. min. ob-va 86 no.1:65-71 '57. (MLRA 10:4)

1. Kafedra mineralogii Sverdlovskogo gornogo instituta.
(Ural Mountains--Serpentinites)

VERTUSHKOV, G.N.

Rhythmic phenomena in a coarsely dispersed medium during the formation of limonite geodes in the Bilimbay crystalline limestone deposit. Izv. An SSSR. Ser. geol. 24 no.6:108-112 Je '60. (MIRA 14:4)

1. Sverdlovskiy gornyy institut.
(Bilimbay region--Geodes)

VERTUSHKOV, G.N.

Dendrite crystals of microcline in micrographic intergrowth with quartz from the Rezh region in the Urals. Trudy Gor.-geol. inst. UFAN SSSR no. 42:99-106 '59. (MIRA 14:2)
(Ural Mountains--Microcline crystals)

VERTUSHKOV, G.N.

Morphological types of phenocrysts of acid plagioclase from the Sverdlovsk plagioclase-biotite porphyry. Trudy Gor.-geol. inst. UFAN SSSR no. 35:201-207 '60. (MIRA 14:1)
(Sverdlovsk--Phenocrysts) (Plagioclase)

VERTUSHKOV, G.N.

Hydrargillite from the Elizavetinskiy iron ore deposit in the Urals. Zap. Vses. min. ob-va 89 no.5:570-572 '60. (MIRA 13:10)

1. Kafedra mineralogii Sverdlovskogo gornogo instituta.
(Ural Mountains--Gibbsite)

VERTUSHKOV, G.N.

Granitization of ferruginous quartzites in the eastern contact zone of the Ufaley granite massif in the Urals. Izv. vys. ucheb. zav.; geol. i razv. 1 no.12:80-94 D '58. (MIRA 12:12)

1.Sverdlovskiy gornyy institut.
(Ural Mountains--Quartzites)

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TITLE: Ilmenite-Magnetite Ores from Dolomite Veins in the Urals (Il'menito-magnetitovyye rudy iz dolomitovoy zhily na Urale)

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ABSTRACT: The Sugomak deposit, at present having only mineralogical value, is situated in the Kyshtym district of the Chelyabinsk region, on the southern continuation of Sugomak Mountain. The district in which the deposit occurs is composed of massive antigorite serpentinites, grayish-green in color, and containing dust-like inclusions of magnetite. The serpentinites contain veins of dolomite up to two meters thick. The veins have sharp contacts with the serpentinites,

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Ilmenite- Magnetite Ores (Cont.)

which, at these places, are strongly sheared. The schistosity, parallel to the selvage of the vein, dies out away from the vein. Ore minerals form bands and accumulations of irregular form in the dolomite in the body of the veins. The ore minerals represent 20 to 30 percent of the total volume of the vein. The ore minerals are represented by a granular aggregate of ilmenite and magnetite filling fractures and cavities in the dolomite, cementing dolomite fragments, and partly replacing the dolomite. These relations indicate that the ore minerals are younger than the dolomite. The ore is predominantly magnetite. The TiO_2 content is 25.42 percent. Grains of ore rarely show crystal form and are everywhere allotriomorphic in relation to each other. The size of the grains ranges from 0.01 mm to 0.03 mm across. Grains of ilmenite and magnetite both show intergrowths of hematite, the result of decomposition from solid solution. The absence of any indications of transection and replacement of one ore mineral by another, and also the equal degree of idiomorphism, lead one to conclude that the ilmenite and

Ilmenite-Magnetite Ores (Cont.)

magnetite formed simultaneously. Apatite is present in considerable quantities in the ilmenite-magnetite aggregate. The veins originated where fractures formed in the serpentinites because of tectonic movements. These fractures were the sites of formation of the dolomite veins. The vein mineral was deposited from hydrothermal solutions containing CO_2 and combinations of Cl and P at high temperatures. After the movements in the veins, the ilmenite-magnetite aggregate was deposited in cavities and by metasomatic replacement of the dolomite. The Sugomak deposit is genetically most closely related to veins of the alpine type in metamorphosed basic rocks. During metamorphism of these basic rocks, Ti does not enter the lattices of silicates but is concentrated in independent minerals. In the described occurrence, the elements of the Sugomak hyperbasite mass that did not enter into the composition of minerals in the serpentinite accumulated in structural fractures in combination with H_2 and CO_2.

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A. B. B.

VERTUSHKOV, G.N.

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1.Sverdlovskiy gornyy institut, kafedra kristallografii i mineralogii.
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